

REMARKS

Claims 1-11, all the claims pending in the application. Applicant has amended claims 1-4 and 8-11 in order to conform to standard U.S. practice and to provide antecedent basis for the claim limitations. Applicants also have added new claims 12-17. These claims are supported at least by the text added in this CIP beginning at pages 18 and 45.

Related Applications

This application is a CIP of parent application USSN 09/934,581, now abandoned.

Claim Rejections - 35 U.S.C. § 112

In the parent case, claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants have amended the claims in order to better state the method steps of the invention. In addition, by this amendment, Applicants have provided antecedent basis for limitations in the claim.

Title

The Examiner found the title in the previous case not to be descriptive of the invention. Applicants have amended the title to read "A Method For Measuring Stiffness Of A Cultured Tissue Using A Stiffness Measurement Device Having A Vibration Detective Unit".

Allowable Claims

The Examiner had not cited prior art against any of the claims 1-11 in the parent case. Accordingly, the claims should be allowable in this case. Applicant has added new claims 12-17 that are supported at least by text at pages 18 and 45.

In view of the above, early consideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

A handwritten signature in black ink, appearing to read 'Alan J. Kasper', written over a horizontal line.

Alan J. Kasper
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Date: April 28, 2003

APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is amended as follows:

[Methods For Measuring Stiffness Of Cultured Tissue, For Determining Transplant Compatibility, For Quality Control, And For Preparing Transplant-Comparable Cultured Tissue]

A Method For Measuring Stiffness Of A Cultured Tissue Using A Stiffness Measurement Device Having A Vibration Detective Unit". Please advise whether this title is acceptable.

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A method of measuring [the] a stiffness of a cultured tissue for [the] a determination of [the] an amount of a produced matrix of a tissue cultured in vitro or for the determination of transplant compatibility of the cultured tissue based on the amount of the produced matrix, wherein said method comprises:

providing [is carried out by using] a stiffness measuring device, said stiffness measuring device having [comprising] a detecting unit, and a calculation means, wherein said detecting unit includes:[including]

a contact unit,

a vibrator connected to said contact unit, and

a vibration detecting unit for detecting the vibration of said vibrator, and

said calculation means determines [determining] stiffness information by calculation based on a [the] detected result from said vibration detecting unit; [the method comprising the steps of:]

bringing said contact unit into contact with the cultured tissue, and

measuring the stiffness of the cultured tissue.

2. (Amended) A method according to claim 1, [wherein said detecting unit] further comprising: [comprises a load detecting unit for]

detecting with a load detecting unit a load applied onto said contact unit, and

[wherein] measuring the stiffness of the cultured tissue [is measured] based on a relationship between the vibration of the vibrator detected by said vibration detecting unit and

the load detected by said load detecting unit.

3. (Amended) A method according to claim 1, [wherein said detecting unit] further comprising: [comprises a displacement detecting unit for]

detecting with a displacement detecting unit a displacement of the contact unit from a reference position, and

measuring [wherein] the stiffness of the cultured tissue [is measured] based on a relationship between the vibration of the vibrator detected by said vibration detecting unit and the displacement detected by said displacement detecting unit.

4. (Amended) A method according to claim 1, wherein said cultured tissue includes at least one of a cell or a matrix produced by said cell, said cell being seeded and cultured on a tissue regeneration scaffold having a three-dimensional structure, [wherein] comprising:

defining the stiffness of the tissue regeneration scaffold alone on which no cell is seeded or the stiffness of [the] a cultured tissue immediately after the seeding of said cell is previously measured and the resulting stiffness information [is defined] as reference stiffness information, and

comparing [wherein] said reference stiffness information [is compared] with the stiffness information of the cultured tissue.

7. (Amended) A method of determining the transplant compatibility of a tissue cultured in vitro, said method using a method for measuring the stiffness of a cultured tissue according to any one of claims 1 to 6 and 12-14.

8. (Amended) A method for [the] quality control of a cultured tissue, said method comprising the steps of:

measuring a [the] stiffness of an in vitro cultured tissue at a predetermined time after an [the] initiation of culture;

predicting a change in stiffness of said cultured tissue with time; and

controlling culture conditions for said cultured tissue based on the resulting prediction.

9. (Amended) A method according to claim 8, [wherein] further comprising: measuring the stiffness of said cultured tissue [is measured] using a stiffness measuring

device, said stiffness measuring device comprising a detecting unit and calculation means, said detecting unit including a contact unit, a vibrator connected to said contact unit, and a vibration detecting unit for detecting a [the] vibration of said vibrator, and said calculation means determining stiffness information by calculation based on a [the] detected result from said vibration detecting unit.

10. (Amended) A method of preparing a transplant-compatible cultured tissue, said method comprising the step of:

measuring a [the] stiffness of an in vitro cultured tissue at a predetermined time after an [the] initiation of cultivation in order to determine a [the] transplant compatibility of the cultured tissue.

11. (Amended) A method according to claim 10, further comprising: [wherein the] predicting a change in stiffness of said cultured tissue with time [is predicted] based on the measurement of stiffness of said cultured tissue, and

controlling the culture conditions of said cultured tissue [are controlled] to thereby prepare the transplant-compatible cultured tissue.

Claims 12-17 are added as new claims.